

VASIL'YEV, Viktor Grigor'yevich; CHERSKIV, Nikolay Vasil'yevich;  
TREBIN, F.A., doktor tekhn. nauk, prof., red.;  
LATUKHINA, Ye.I., ved. red.

[Testing of exploratory wells in the U.S.S.R.] Ispytanie  
razvedochnykh skvazhin. Moskva, Izd-vo "Nedra," 1964. 164 p.  
(MIRA 17:6)

BOBROV, A.K.; CHERSKIY, N.V., doktor tekhn. nauk, otv. red.

[Geology of the cis-Baikal marginal trough (of its northeastern part); its structure and the prospects for finding oil and gas)] Geologiya Predbaikal'skogo kraevogo progiba (severo-vostochnoi ego chasti); stroenie i perspektivy neftegazonosnosti. Moskva, Nauka, 1964. 226 p. (MIRA 18:2)

VASIL'YEV, V.G.; CHERSKIY, N.V.

Oil and gas prospecting operations in Siberia during the first five years of the seven-year plan and the outlook for these operations. Neftgaz. geol. i geofiz. no. 3:3-7 '64.  
(MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnogo gaza. Moscow.

*State Production Committee for Oil and Gas*

ANODIN, Tikhon Ivanovich; CHERSKIY, N.V., doktor tekhn. nauk,  
otv. red.

[Minerals in the Yakutsk suburban zone] Poleznye iskopaemye  
prigorodnoi zony g. IAIkutska. IAkutsk, IAkutskoe knizhnoe  
izd-vo, 1964. 63 p. (MIRA 18:4)

VASIL'YEV, V.G.; CHERSKIY, N.V.

Oil and gas potential of Eastern Siberia and the prospects for future prospecting for oil and gas. Geol. nefti i gaza 8 no.9:49-54 S '64.  
(MIR' 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnoe gaza i  
Yakutskiy filial Sibirskego otdeleniya AN SSSR.

NENASHEV, Nikolay Ivanovich; ROZHKOV, I.S., nauchn. sotr. otv.  
red.; CHERSKIY, N.V., nauchn. sotr., doktor tekhn.  
nauk, otv. red.; SHEYMAN, V.S., red.

[Mesozoic and Cenozoic igneous activity and ore forma-  
tion in ea. tern Yakutia] Mezo-kainozoiskii magmatizm i  
rudoobrazovanie Vostochnoi Yakutii. Moskva, Nauka,  
(MIRA 19:1)  
1965. 167 p.

1. Institut geologii Yakutskogo filiala Sibirskogo otde-  
leniya AN SSSR (for Rozhkov, Cherskiy). 2. Chlen-  
korrespondent AN SSSR (for Cherskiy).

*Journal für die reine und angewandte Mathematik* UC Zap 113, no 10, 1943 pp 43-55.  
On some special integral equations.

Some integral equations of the forms

$$x + \int_{-\infty}^{\infty} a(x-t)f(t)dt + \operatorname{sgn} x \cdot g(x)$$

$$\int_{-\infty}^{\infty} b(x-t)f(t)dt + \int_{-\infty}^{\infty} n(x,t)f(t)dt = g(x)$$

$$x + \int_{-\infty}^{\infty} a(x-t)f(t)dt + \int_{-\infty}^{\infty} b(x-t)\operatorname{sgn} t f(t)dt =$$

$$\int_{-\infty}^{\infty} n(x-t)f(t)dt + k(x)$$

can be converted by the Fourier transformation into simpler integral equations involving Cauchy kernels. The author proves this and gives a number of solutions, most of which center about Nörlund's theorem for these equations. *D. G. Klinecke*

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CHERSKIY, YU. I.

Cherskiy, Yu. I.

"Integral equations of the group type." Published by the Acad Sci  
Georgian SSR. Acad Sci Georgian SSR. Tbilisi Mathematics Inst  
imeni A. M. Razmadze. Tbilisi, 1956 (Dissertation for the degree  
of Doctor of Physicomathematical Sciences)

Knizhnaya letopis'  
No. 25, 1956. Moscow.

CHERSKIJ, Yu.I.

SUBJECT USSR/MATHEMATICS/Integral equations CARD 1/2 PG - 398  
 AUTHOR GACHOV F.D., CERSKIJ Yu.I.  
 TITLE Special integral equations of the convolution type.  
 PERIODICAL Izvestija Akad. Nauk 20, 33-52 (1956)  
 reviewed 11/1956

The authors investigate the integral equations

$$(A) \quad f(x) + \frac{1}{\sqrt{2\pi}} \int_0^{\infty} k_1(x-t)f(t)dt + \frac{1}{\sqrt{2\pi}} \int_{-\infty}^0 k_2(x-t)f(t)dt = g(x) \quad (-\infty < x < +\infty)$$

and

$$f(x) + \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{+\infty} k_1(x-t)f(t)dt = g(x) \quad 0 < x < \infty$$

$$(B) \quad f(x) + \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{+\infty} k_2(x-t)f(t)dt = g(x) \quad -\infty < x < 0$$

Certain exponential estimations for kernels or the required functions are not

Izvestija Akad. Nauk 20, 33-52 (1956)

CARD 2/2

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assumed. For the simplest cases (e.g. homogeneous equations) the solution can be reduced to a surface problem by a Fourier transformation. But in the general case the determination of the class of required solution functions of the surface problem implies insurmountable difficulties. Therefore the authors propose another way and reduce the solution to the consideration of the Riemannian boundary value problem. According to the situation of the strips of analyticity of the transformed function there arise several special cases which are solved one after another.

Cherskiy, Yu. I.

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.  
Smirnov, M. M. (Leningrad). On a Boundary Problem for Mixed Type Equations.

Call Nr: AF 1108825

69-70

Stebakov, S. A. (Moscow). Simplex-Linear Differential Equations.

70

Cherskiy, Yu. I. (Rostov-na-Donu). Convolution Type Integral Equations.

70-71

Fok, V. A. and Rapoport, I. M. are mentioned.

Fage, M. K. (Chernovitsy). Solution of one Cauchy Problem by Increasing the Number of Independent Variables.

71-72

Mention is made of Levitan, B. M., Marchenko, V. A. and Povzner, A.Ya.

Khvedelidze, B. V. (Tbilisi). On Singular Integral Equations With Cauchy Type Kernels in the Classes of Functions, Which are Summed up With Weight.

72

Card 21/80

*CHERSKIY Yu. I.*

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/3 PG .. 947  
AUTHOR CHERSKIY Yu.I.  
TITLE General singular equation and equations of the convolution type.  
PERIODICAL Mat.Sbornik,n.Ser. 41, 277-296 (1957)  
reviewed 7/1957

The present paper consists of five paragraphs. The first paragraph contains the general theory of a singular equation, where the author uses the investigations of Khalilov ("Linear equations in linear normalized spaces", 1949). Let  $B$  be a Banach space,  $R$  the subring of the ring  $Q$  of all linear operators in  $B$ . The set  $D \subset Q$  is the class of regular operators  $T$  if for  $I+T$  ( $I$ - identical operator) there holds the theory of Riesz-Schauder and if from  $A \in R$ ;  $T, T_1, T_2 \in D$  there follows:  $AT \in D$ ,  $TA \in D$ ,  $T_1 + T_2 \in D$ ,  $T_1 T_2 \in D$ . The operator  $S \in Q$  is singular if  $S^2 = I$ ;  $S \neq \pm I$ ; from  $T \in D$  follows  $ST \in D$ ,  $TS \in D$  and if  $SA - AS \in D$  for  $A \in R$ .  $M = A_1 + A_2 S + T$  is denoted as the general singular operator. The author's theory concerns the general singular equation (1)  $M\varphi = f$ , where  $f \in B$  and  $\varphi$  is sought. If there exist  $(A_1 + A_2)^{-1}$  and  $(A_1 - A_2)^{-1}$  and if they belong to  $R$ , then the theorems of Noether are valid (the number of the linearly independent solutions of (1) is finite etc.). In the second paragraph the author considers the

Mat.Sbornik,n.Ser. 41, 277-296 (1957)

CARD 2/3

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characteristic equation  
 $(2) \quad M^0 \varphi \equiv A_1 p + A_2 s = f$   
and the equation  $M^0 \bar{\varphi} = \bar{f}$  and the solutions of them. It is stated that in dependence of the index  $\kappa = \text{Ind}(A_1 + A_2)^{-1}(A_1 - A_2)$  the equation (2) has linearly independent solutions ( $\kappa > 0$ ), or a single solution ( $\kappa = 0$ ) or it is unsolvable (or for an additional condition it has one single solution) - if  $\kappa < 0$ . The effective solution of (2) leads to two problems: I) to determine the operator  $A^{-1} \in R$  with the given invertible operator  $A \in R$ , II) to represent the given operator  $(A_1 + A_2)^{-1}(A_1 - A_2)$  in the form of a certain composition  $\Psi_+ U^\kappa \Psi_-^{-1}$ . Here  $\Psi_+$  and  $\Psi_-$  are invertible operators belonging to  $Q$  such that  $\Psi_+ \varphi_+ \in B_+$ ,  $\Psi_- \varphi_- \in B_-$ ,  $\Psi_+^{-1} \varphi_+ \in B_+$ ,  $\Psi_-^{-1} \varphi_- \in B_-$ , where  $B_+$  is the set of those elements  $\varphi_+$  of  $B$  for which  $\varphi_+ - S\varphi_+ = 0$  ( $B_-$  and  $\varphi_-$  correspondingly defined with  $\varphi_- + S\varphi_- = 0$ ).  $U$  is an invertible operator belonging to  $Q$  with the following properties 1)  $U \varphi_+ \in B_+$ , 2)  $U^{-1} \varphi_- \in B_-$ , 3) there exists a single  $h_+ \in B_+$  such that  $U^{-1} h_+ \in B_-$  ( $h_+ \neq 0$ ), 4) there exists a single  $\bar{h}_- \in B_-$  such that  $U^* \bar{h}_- \in B_+$  ( $\bar{h}_- \neq 0$ ). - The paragraphs 3-5 contain special cases of

*Cherskiy, Yu.I.*

20-6-8/42

AUTHOR:

CHERSKIY, Yu.I.

TITLE:

On the Reduction of Mixed Boundary Value Problems to the Riemannian Boundary Value Problem (O svedenii smeshannykh granichnykh zadach k krayevoy zadache Rimana)

PERIODICAL:

Doklady Akad.Nauk, SSSR, 1957, Vol.116, Nr 6, pp.927-929 (USSR)

ABSTRACT:

The author proposes a method which allows to reduce mixed boundary value problems for the equations

$$(1) \quad \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} - h^2 u = 0 \quad -\infty < x < \infty$$

and

$$(2) \quad \sum_{\mu=0}^p \sum_{\nu=0}^q a_{\mu\nu}(y) \frac{\partial^{\mu+\nu}}{\partial x^\mu \partial y^\nu} u(x,y) = 0,$$

where  $a_{\mu\nu}(y)$  are piecewise constant, to the Riemannian boundary value problem, if the boundary of the domain consists of the sections of the straight lines  $y = y_k$ ,  $k=1, \dots, n$ . The solution  $u(x,y)$  is sought in the class of those functions which satisfy the condition (in the case (1)).

Card 1/2

AUTHOR: Cherskiy, Yu.I.

SOV/38-22-3-4/9

TITLE: On the Equations of Convolution Type (Ob uravneniyakh tipa svertki)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1958,  
Vol 22, Nr 3, pp 361-378 (USSR)

ABSTRACT: The author considers integral equations of the type

$$\lambda \varphi(x) + \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} k(x-t)\varphi(t)dt = f(x)$$

and similar ones. With the aid of the method already often successfully applied in more special cases by Gakhov and the author [Ref 9 - 11], these equations are reduced to boundary value problems for analytic functions, where in particular such cases are considered in which the ordinary Fourier transform cannot be applied. Many results are not new.  
There are 17 references, 13 of which are Soviet, 2 German, 1 English, and 1 American.

PRESENTED: by V.I. Smirnov, Academician  
Card 1/2

On the Equations of Convolution Type

SOV/38-22-3-4/9

SUBMITTED: April 22, 1957

1. Integral equations    2. Analytic functions--Applications

Card 2/2

16(1)

AUTHOR:

Cherskiy, Yu.I.

SOV/20-125-3-9/63

TITLE:

On the Solution of the Riemannian Boundary Value Problem in the  
Classes of the Generalized Functions (K resheniyu krayevoy  
zadachi Rimana v klassakh obobshchennykh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3, pp 500-503 (USSR)

ABSTRACT: The author uses his former results [Ref 4] in order to solve  
the Riemannian boundary value problem in some classes of ge-  
neralized functions.

Let  $B$  be a linear space,  $Q$  the ring of the additive operators  
in  $B$ ;  $S \in Q$ ,  $S^2$  the identical operator. Let  $B_+$  (or  $B_-$ ) denote  
the space of elements  $f_+$  (or  $f_-$ ) of  $B$  which satisfy the  
equation  $f_+ = Sf_+$  (or  $f_- = Sf_-$ ). Let  $\chi$  be the index of  $A$ , if  
 $A = \Psi_+ U^\chi \Psi_-^{-1}$ . Here are  $\Psi_+, \Psi_-^{-1}, U, U^{-1} \in Q$ ;  $\Psi_\pm f_\pm \in B_\pm$ ;  
 $\Psi_\pm^{-1} f_\pm \in B_\pm$ ;  $Uf_+ \in B_+$ ;  $U^{-1}f_- \in B_{-1}$ ; for the operator  $U$  there

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On the Solution of the Riemannian Boundary Value

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exists a unique element  $h_+ \neq 0$  with the property  $h_+ \in B_+$ ,  $U^{-1}h_+ \in B_-$ . The Riemannian problem is defined as follows : The operator  $A \in Q$  and the element  $g \in B$  are given;  $f_+ \in B_+$  and  $f_- \in B_-$  are sought, so that  $f_+ = Af_- + g$ . If  $\text{Ind } A = \chi > 0$ , then there exists a solution for every  $g$ , where the homogeneous problem possesses exactly  $\chi$  linearly independent solutions. If  $\chi = 0$ , then the problem is solvable for arbitrary  $g$ , the homogeneous problem possesses the trivial solution only. For  $\chi < 0$  the problem is not solvable for all  $g$ , the homogeneous problem has only the trivial solution. The solution is

$$f_+ = \Psi_+ \left( g_+ + \sum_{k=0}^{\chi-1} c_k U^k h_+ \right), \quad f_- = \Psi_- U^{-\chi} \left( g_- + \sum_{k=0}^{\chi-1} c_k U^k h_+ \right)$$

where  $c_k$  are arbitrary constants,  $g_- = \frac{1}{2} (S \pm I) \Psi_+^{-1} g$ ,  $\Psi_+ U^\chi \Psi_-^{-1} = A$ . For  $\chi \leq 0$  it is  $c_k = 0$ ; for  $\chi < 0$  it is

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On the Solution of the Riemannian Boundary Value SOV/20-125-3-9/63

necessary and sufficient for the solvability that

$$(S + I)U^{-\lambda}(S - I)\psi_+^{-1}g = 0.$$

As B the author chooses different spaces of generalized functions (linear functionals) on which the operators S and A are defined and the form of U,  $\psi_+$ ,  $\psi_-$  is determined. Altogether there are

formulated four theorems without proof.

The author mentions a paper of O.S. Parasyuk on convolution equations. - There are 6 references, 5 of which are Soviet, and 1 English (in Russian translation).

ASSOCIATION: Rostovskiy-na-Dony gosudarstvennyy universitet (Rostov-na-Donu State University)

PRESENTED: December 10, 1958, by N.I. Muskhelishvili, Academician

SUBMITTED: December 2, 1958

Card 3/3

S/020/61/140/001/010/024  
C111/C222

AUTHOR: Cherskiy, Yu. I.

TITLE: Reduction of periodic problems in mathematical physics to singular equations with a Cauchy kernel

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 1, 1961, 69 - 72

TEXT: The author considers a class of periodic problems which can be reduced to integro-differential equations with a singular Cauchy integral with the aid of the Fourier transformation

$$V \psi = \frac{1}{2\pi} \int_{-\infty}^{\infty} \psi(x) e^{-ikx} dx = \hat{\psi}_k, \quad V^{-1} \hat{\psi}_k = \sum_{k=-\infty}^{\infty} \hat{\psi}_k e^{ikx} = \psi(x). \quad (1)$$

$$k = 0, \pm 1, \pm 2, \dots, -\infty < k < \infty,$$

Let the equation

$$\frac{\partial^4 u}{\partial x^4} + 2 \frac{\partial^4 u}{\partial x^2 \partial y^2} + \frac{\partial^4 u}{\partial y^4} = 0 \quad (2)$$

be defined in a plane having cuts on the axis  $y = 0$  which repeat with Card 1/4

Reduction of periodic problems ...

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the period  $2\pi$ . In the half planes  $y < 0$  and  $y > 0$  one transforms (2) according to Fourier by using

$$\nu \frac{\partial^{p+q} u(x, y)}{\partial x^p \partial y^q} = (ik)^p \frac{\partial^q U_k(y)}{\partial y^q} \quad (3)$$

and writes the solutions of the obtained ordinary differential equations

$$U_k(y) = \begin{cases} A_{k1}e^{-|k|y} + yB_{k1}e^{-|k|y} + C_{k1}e^{|k|y} + yD_{k1}e^{|k|y}, & k \neq 0, y < 0; \\ y^2A_{01} + y^3B_{01} + C_{01} + yD_{01}, & k = 0, y < 0; \\ A_{k2}e^{-|k|y} + yB_{k2}e^{-|k|y} + C_{k2}e^{|k|y} + yD_{k2}e^{|k|y}, & k \neq 0, y > 0; \\ A_{02} + yB_{02} + y^2C_{02} + y^3D_{02}, & k = 0, y > 0. \end{cases} \quad (4)$$

Let  $A_{k1} = B_{k1} = C_{k2} = D_{k2} = 0$ . On  $y = 0, |x| < \pi$  let

$$\sum_{p=0}^3 \sum_{q=0}^3 \left[ \alpha_{lpqr} \frac{\partial^{p+q} u(x, +0)}{\partial x^p \partial y^q} + \beta_{lpqr} \frac{\partial^{p+q} u(x, -0)}{\partial x^p \partial y^q} \right] = f_r(x), \quad (5)$$

Card 2/2  $x_j < x < x_{j+1}; \quad x_0 = -\pi, \quad x_{m+1} = \pi; \quad j = 0, \dots, m \quad (m \geq 0);$   
 $r = 1, 2, 3, 4.$

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These boundary conditions are continued to the whole straight line  $y = 0$  with the period  $2\pi$ . If the interval  $x_j < x < x_{j+1}$  of  $y = 0$  does not belong to the boundary then it is put  $\varphi_{j0q,q+1} = -\beta_{j0q,q+1} = 1$ ,  $q = 0, 1, 2, 3$ , while the remaining coefficients and  $f_r(x)$  are put equal to zero on  $(x_j, x_{j+1})$ . After the Fourier transformation of (5) one obtains the problem : Determine the functions  $A_{k2}, B_{k2}, C_{k1}, D_{k1}$  and  $\varphi_{kjr}$  of the discrete argument  $k$  which satisfy

$$\sum_{p, q=0}^3 \{a_{pq,r}(ik)^p [(-|k|)^q A_{k2} + q(-|k|)^{q-1} B_{k2}] + \\ + \beta_{pq,r}(ik)^p [|k|^q C_{k1} + q|k|^{q-1} D_{k1}] \} = F_{kr} + \Phi_{kjr}, \quad (6)$$

$r = 1, 2, 3, 4; \quad j = 0, \dots, m; \quad k = 0, \pm 1, \pm 2, \dots,$

where the reversal transformation of the  $\varphi_{kjr}$  shall have the property  
 Card 3/b  $\varphi_{jxr}(x) = 0, \quad x_j < x < x_{j+1} \quad . \quad (7)$

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Carrying out the reversal transformation, using (3) and

$$V^{-1} \cdot k \operatorname{sgn} \left( k + \frac{1}{2} \right) = \frac{1}{\pi} \int_{-\pi}^{\pi} \frac{(t)e^{it} dt}{e^{it} - e^{ix}} \quad (8)$$

then instead of (6), (7) one obtains the system

$$\begin{aligned} & \sum_{p, q=0}^3 \left\{ \alpha_{l p q r} \left[ \frac{d^{p+q}}{dx^{p+q}} \left( a_2(x) \cos \frac{\pi q}{2} + \frac{i \sin \pi q/2}{\pi} \int_{-\pi}^{\pi} \frac{a_2(t) e^{it} dt}{e^{it} - e^{ix}} \right) + \right. \right. \\ & \quad + q \frac{d^{p+q-1}}{dx^{p+q-1}} \left( b_2(x) \sin \frac{\pi q}{2} - \frac{i \cos \pi q/2}{\pi} \int_{-\pi}^{\pi} \frac{b_2(t) e^{it} dt}{e^{it} - e^{ix}} \right) \Big] + \\ & \quad + \beta_{l p q r} \left[ \frac{d^{p+q}}{dx^{p+q}} \left( c_1(x) \cos \frac{\pi q}{2} - \frac{i \sin \pi q/2}{\pi} \int_{-\pi}^{\pi} \frac{c_1(t) e^{it} dt}{e^{it} - e^{ix}} \right) + \right. \\ & \quad \left. \left. + q \frac{d^{p+q-1}}{dx^{p+q-1}} \left( d_1(x) \sin \frac{\pi q}{2} + \frac{i \cos \pi q/2}{\pi} \int_{-\pi}^{\pi} \frac{d_1(t) e^{it} dt}{e^{it} - e^{ix}} \right) \right] \right\} = f_r(x), \quad (9) \end{aligned}$$

$$x_j < x < x_{j+1}, j = 0, \dots, m; \quad r = 1, 2, 3, 4.$$

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In a number of cases the system (9) leads to singular integral equations with a Cauchy kernel which are solvable by quadratures.

Let (2) be given in a plane cut off along the periodically repeating intervals of the straight line  $y = y_s$ ,  $s = 1, \dots, n$ ;  $-\infty < y_1 < \dots < y_n < \infty$ . Instead of (5) let be given the problem

$$\sum_{p,q=0}^3 \left[ \alpha_{jpqrs} \frac{\partial^{p+q} u(x, y_s + 0)}{\partial x^p \partial y^q} + \beta_{jpqrs} \frac{\partial^{p+q} u(x, y_s - 0)}{\partial x^p \partial y^q} \right] = f_{rs}(x) \quad (10)$$

$$x_j < x < x_{j+1}, \quad j = 0, \dots, m; \quad r = 1, 2, 3, 4; \quad s = 1, \dots, n.$$

Using, beside of (3), (8), the formula

$$V^{-1} A_k \phi_k = \frac{1}{2\pi} \int_{-\pi}^{\pi} a(x - t) \psi(t) dt \quad (11)$$

then the problem can also be reduced to a system of integro-differential  
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equations. Beside of the problem (10) for  $n$  straight lines,  $n$  problems for a straight line can be considered.

The described method is not only applicable to (2) but also to other equations, e.g. to  $\Delta u + \lambda u = f$ ,  $\Delta^n u = f$  etc.

There are 4 Soviet-bloc references.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

PRESENTED: April 28, 1961, by N.I. Muskhelishvili, Academician

SUBMITTED: March 31, 1961

Card 6/6

CHERSKIY, Yu.I.

Problems in mathematical physics reducible to Riemann's problem.  
Trudy Mat. inst. AN Gruz. SSR 28:209-246 '62. (MIRA 16:8)

(Boundary value problems)  
(Fourier series)

GAKHOV, Fedor Dmitriyevich; ROGOZHIN, V.S., dots., red.; BACHURINA, T.A., aspirant, red.; GOVORUKHINA, A.A., aspirant, red.; ZARIPOV, R.Kh., aspirant, red.; MEL'NIK, I.M., aspirant, red.; MIKHAYLOV, L.G., aspirant, red.; LITVINCHUK, G.S., aspirant, red.; PARADOKSOVA, I.A., aspirant, red.; KHASABOV, E.G., aspirant, red.; CHERSKIY, Yu.I., aspirant, red.; YANOVSKIY, S.V., aspirant, red.; ARAMANOVICH, I.G., red.; Prinimali uchastiye: BOROVSKAYA, N.I., red.; RYSYUK, N.A., red.; SMAGINA, V.I., red.; KHAYRULLIN, I.Kh., red.; CHUMAKOV, F.V., red.; POLOVINKIN, S.M., red.; KEPPEL, I.V., red.; MIKHLIN, E.I., tekhn. red.

[Boundary value problems] Kraevye zadachi. Izd.2., perer. i dop.  
Moskva, Fizmatgiz, 1963. 639 p. (MIRA 16:3)  
(Boundary value problems)

CHERSKIY, Yu.I.

Two theorems on the estimation of errors and some of their applications.  
Dokl. AN SSSR 150 no.2:271-274 My '63. (MIRA 16:5)

1. Predstavleno akademikom N.I. Mus~~ash~~elishvili.  
(Errors, Theory of)

1977.01.24 TJP(s)

REF ID: A64767

AUTHOR: Berezhnoy, Yu. I. (Berezin-Ya-Iur'ev)

TITLE: Wiener-Hopf integral differential equation and its applications

SOURCE: IVUZ. Matematika, no. 2, 1965, 180-200

TOPIC TAGS: differential equation, integral equation, elasticity

ABSTRACT: Let  $q$  be a given positive constant and  $k(x)$  be a given function in $L_2(-\infty, \infty)$  whose Fourier integral  $K(x) = \lim_{n \rightarrow \infty} \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} k(t) e^{itx} dt$  is such that $K(x)\sqrt{x^2 + q^2}$  does not vanish and satisfies a Hölder condition on the closed  $x$  axis. Let  $g_+$  be a given generalized function from  $L_2^+(1)$  (defined in the paper). The author seeks the solution  $f_+(x)$  of

$$\left[ \frac{d^2}{dx^2} - q^2 \right] \int_0^\infty k(x-t) f_+(t) dt = \sqrt{2\pi} g_+(x), \quad x > 0 \quad (1)$$

in  $L_2(0, \infty)$ . He reduces this to a Riemann problem and gives necessary and sufficient conditions.

L 48304-65

ACCESSION NR: AP5011199

method for the solution of the latter. He then treats the problem of numerical  
solution of the equations concerning the theory of the contact problem.  
For example, he gives one concerning solutions of the boundary  
value problem, and the other a plane contact problem for a strip (which is a  
Riemann problem). Orig. art. has: 49 formulas.

ASSOCIATION: none

PUBLISHED: 2506163

ENCL: 00

SUB CODE: MA

NO REF Sov: 009

OTHER: 001

Card 2/2

L 53774-65 RNT(d) Pg-4 IJP(c)  
ACCESSION #: AB5015220

... 1-7-12/25/000/005/0647/0562

AUTHOR: Cherskiy, Yu. I.

TITLE: Solution of mixed problems for partial differential equations

SOURCE: Differential'nyye uravneniya, no. 1, 1961, p. 7

TOPIC TAGS: partial differential equation, boundary value problem

ABSTRACT: Consideration of a large class of problems of heat conduction which are solvable by combining Fourier integral with boundary conditions. The results are given for the case of a function  $K(x)$  which

$$K(t)F'(t) = G^+(t) + F^-(t), \quad -\infty < t < \infty,$$

where the given function  $K(x)$  is such that the product  $|K(x)|^{1/2} \times |x|^{-1/2}$  is bounded,  $\gamma$  is a nonzero real number and satisfies a Hölder condition;  $\beta = \text{const} > 0$ ;  $\Omega^+(x)$  is a nonsingular function which is analytic in the half-plane  $x > 0$ ,  $\Omega^+(x)$  is also known; it belongs to  $L_2^{1/2, 0, \beta}$ . The symbol  $L_2^{1/2, 0, \beta}$ ,  $n$  is an integer, denotes the class of functions  $\Omega^+(x)$  defined on the  $x$  axis which are analytically extendable to the upper half-plane, where uniformly with respect to  $y \geq 0$

$$\int_{-\infty}^{\infty} |\Omega^+(x+iy)(x+iy+\beta)^{-n}|^2 dx < \text{const}$$

Cord 1/3

L 53774-65

ACCESSION NR: AP5015220

The functions  $F^+(x)$  and  $F^-(x)$  are unknown; they are sought in the classes

$$F^+(x) \in L_2[0, 1], \quad F^-(x) \in L_2[0, 0].$$

The notation  $L_2[0, n]$  replaces the upper half-plane by the lower. After giving several informal examples of typical boundary value problems reducing to the present problem, the author gives a method of strict formulation of problems and reduction of a given class to (1), (3). He proves several theorems like: Theorem 1. If  $u(x, y)$  is the function  $u(x, y)$  belongs to the class  $M(0, 1)$  and satisfies equation

$$u_{xx} + u_{yy} - \lambda^2 u = 0, \quad \lambda = \text{const},$$

Then the Fourier integral of this function has the form

$$0 \leq y < 1, \quad (5)$$

where

$$G_1(x) \in L_2(-\infty, \infty), \quad G_2(x) \in L_2(-\infty, \infty). \quad (6)$$

He then treats solution of (1), (3) in quadratures, and examines the error, including the error in the quadrature formulae. Finally, he treats as an example the Wiener-Hopf equation of the first kind. Orig. art. hasn't formulae.

ASSOCIATION: Odeskiy gosudarsivennyj universitet (Odessa State University)  
Card 2/3

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000308710014-7

L 5774-65

ACCESSION #: A9015220

SUBMITTED: 21 Oct 64

ENCL: 00

SUP CLIP: M

NO REF SOC: 000

OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000308710014-7"

CHERSKOV, A. S., POZDNYAKOV, A. G. and KRONGAUZ, K. A.

"About specific prophylaxis of hog cholera."

Veterinariya, Vol. 37, No. 6, 1960, p. 31

Vet-Dr

~~CHERSKOV, A.S., veterinarnyy vrach; POZDNYAKOV, A.G., veterinarnyy  
vrach; MONGAUZ, K.A., veterinarnyy vrach~~

Specific prophylaxis in swine plague. Veterinariia 37 no.6:  
31-33 Je '60. (MIRA 16:7)

(Swine plague)

L-4278-66 EMT(m)/ETC/ENG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD  
ACCESSION NR: AP5024485 UR/0316/65/000/003/0135/0139

AUTHOR: Rustamov, P. G.; Cherstvova, V. B.; Safarov, M. G.

TITLE: Interaction in the  $\text{GaSe}-\text{Ga}_2\text{Te}_3$  system

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 3, 1985, 135-139

TOPIC TAGS: gallium compound, selenium compound, tellurium compound, solid solution, gallium alloy, tellurium alloy

ABSTRACT: Alloys of the  $\text{GaSe}-\text{Ga}_2\text{Te}_3$  system were synthesized at 5-10 mole % intervals, and their thermograms were recorded before and after annealing at 580C. A compound of the approximate composition  $\text{Ga}_2\text{SeTe}$  and two eutectic points were found in the system. The density was studied as a function of composition, and the microhardness was measured before and after annealing. The microstructure displayed a complete homogeneity. A fusibility diagram of the  $\text{GaSe}-\text{Ga}_2\text{Te}_3$  section was plotted; the system is quasibinary. X-ray phase analysis showed that solid solutions extending up to about 35 mole %  $\text{GaSe}$  form in the region rich in  $\text{Ga}_2\text{Te}_3$ . The dissolution of  $\text{GaSe}$  in  $\text{Ga}_2\text{Te}_3$  is associated with a decrease in the lattice constant. Orig. art. has: 2 figures and 3 tables.

Card 1/2

4/  
39  
B

L4273-66

ACCESSION NR: AP5024485

ASSOCIATION: In-t khimi AN Azerb. SSR (Institute of Chemistry, AN Azerb. SSR)<sup>55</sup>

SUBMITTED: 31Jan64

ENCL: 00

SUB CODE: MM, GC

NO REF SOV: 010

OTHER: 006

Card

2/2 AP

VINOGRADOV, A.V.; APIRINA, R.M.; CHERSTVENKOVA, Ye.P.

Carbonate complex of beryllium (111) with hexamminocobalt (111).  
Zhur.neorg.khim. 8 no.9:2062-2064 S '63. (MIRA 16:10)

I. 59235-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR. AP8015017

UR/0078/85/010/006/1441/1448  
541, 11, 546, 654, 669

AUTHORS: Antonov, I. I., Konarev, M. I., Kruglov, A. A., Cherstvenkova, Ye. P.  
Yaroshinsky, V. I.

TITLE: Thermal properties of binary sodium sulfates of certain rare earth elements of  
the cerium subgroup.

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 6, 1965, 1441-1446

TOPIC TAGS: lanthanum compound, cerium compound, praseodymium compound,  
neodymium compound, samarium compound, gadolinium compound, binary sulfate,  
rare earth sulfate, sulfate structure, sulfate dehydration

ABSTRACT: Thermogravimetric, thermogravimetric, and x-ray diffraction studies of  
binary sodium sulfates of lanthanum, cerium, praseodymium, neodymium, and  
gadolinium were carried out at 20-1100°. Thermal and x-ray analysis show  
hydration of sodium lanthanum and sodium cerium sulfate takes place with the formation of  
an intermediate product. No such intermediate compounds were observed for the other  
of the other binary sulfates. Anhydrous sodium lanthanum sulfate was found to be  
structural with anhydrous sodium cerium sulfate. Interplanar distances for the anhydrous

Card 1/2

L 59235-65

ACCESSION NR: AP5015017

of the x-ray patterns of  $\text{La}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$  and  $\text{Ce}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$  were calculated. It was shown that the temperature at which the water of crystallization is driven out of the binary sulfates of Pr, Nd, Sm and Gd rises with decreasing ionic radius of the rare earth elements. The x-ray diffraction characteristics are given for the anhydrous salts  $\text{Pr}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$ ,  $\text{Nd}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$ ,  $\text{Sm}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$ , and  $\text{Gd}_2(\text{SO}_4)_3 \cdot \text{Na}_2\text{SO}_4$ , which are isostructural. The stability range of the crystal hydrates and anhydrous binary sulfates of the rare earth elements of the cerium subgroup was determined. The decomposition of anhydrous sodium cerium sulfate at 750-1100°C is associated with the formation of the anhydrous binary sulfates of La, Nd, Sm, and Gd. On heating to 750-1100°C, the anhydrous binary sodium sulfates of La, Nd, Sm, and Gd form isostructural oxysulfates. Interplanar distances for a series of x-ray patterns of these oxysulfates were also calculated. "The thermograms and thermogravimetric curves recorded by V. P. Boriscv." Orig. art. has: 10 figures and 5 tables

ASSOCIATION: None

SUBMITTED: Julian64

ENCL: 00

SUB CODE: IC

NO REF Sov. Govt.

OTHER: 502

Arm  
Card 2/2

CHERSTVIN, V. A.

Cherstvin, V. A. -- "Raising Pine Seedlings in the Southeast of the USSR."  
Min Higher Education USSR, Khar'kov Order of Labor Red Banner Agricultural Inst imeni V. V. Dokuchayev, Khar'kov, 1955 (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 87-104

USSR / Forestry. Forest Cultures.

K

Abs Jour: Ref Zhur-Biol., No 7, 1958, 29577.

Author : Cherstvin, V. A.

Inst : ~~Ukrainian~~ Scientific Research Institute for  
Forestry and Agricultural Forest Melioration.

Title : The Freezing of Young Plants of Tree and Shrub  
Species in Forest Hotbeds.  
(O vymerzanií molodykh rasteniy drevesnykh i  
kustarnikovykh porod na pitomnikakh).

Orig Pub: Byul. nauchno-tekh. inform. Ukr. n.-i. in-t  
lesn. kh-va i agrolesomelior., 1957, No 3-4,  
34-37.

Abstract: No abstract.

Card 1/1

CHERSTVIN, Viktor Aleksandrovich, kand. sel'khoz. nauk; ZABOROVSKIY,  
Ye.P., red.; KHIVRICH, Ye.D., red. izd-va; PARAKHINA, N.L.,  
tekhn. red.

[Storing seeds of valuable and fast-growing trees and preparing them for sowing] Khranenie i podgotovka k posevu  
semian tsennoykh i bystrorastushchikh drevesnykh porod. Mo-  
skva, Goslesbunizdat, 1961. 26 p. (MIRA 14:8)  
(Seeds—Storage) (Afforestation)

CHERSTVIN, V.A., kand.sel'skokhoz.nauk

Propagation of poplars by stem cuttings. Visnyk sil'hosp.nauky 4  
no.8:105-108 Ag '61. (MIRA 14:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva  
i agrolesomelioratsii.  
(Poplar) (Plant cuttings)

CHERSTVOVA, A.Ya.; GADALIN, Yu.I.

Use of albichthyl-hexachloran paste in controlling fly larvae.  
Zhur. mikrobiol. epid. i imunn 28 no.2:140 F '57 (MIRA 10:4)

1. Iz Kuybyshevskoy oblastnoy i Syzranskoy gorodskoy sanitarno-  
epidemiologicheskikh stantsiy.  
(FLIES AS CARRIERS OF DISEASE) (BENZENE HEXACHLORIDE)

L 06157-67 ENT(m)/EMP(t)/ETI IJP(s) JD  
ACC NR: AP6028575 (A) SOURCE CODE: UR/0316/66/000/003/0113/0116

AUTHOR: Rustamov, P. G.; Babayeva, B. K.; Cherstvova, V. B.

25  
13

ORG: Institute of Inorganic and Physical Chemistry, AN AzerbSSR (Institut neorganicheskoy i fizicheskoy khimii AN AzerbSSR)

TITLE: Reaction of elemental selenium and tellurium with gallium telluride and selenide of type  $A_2\text{III}B_3\text{VI}$

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 3, 1966, 113-116

TOPIC TAGS: selenium, tellurium, telluride, selenide, phase diagram, X-ray diffraction study

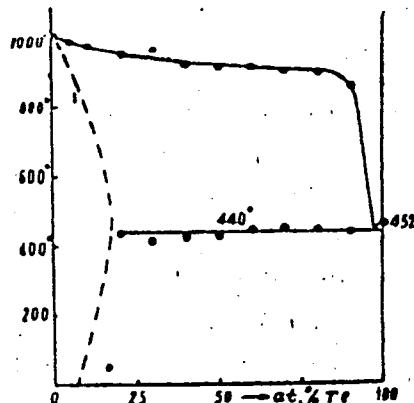
ABSTRACT: Alloys of the sections  $\text{Ga}_2\text{Se}_3$ -Te and  $\text{Ga}_2\text{Te}_3$ -Se were synthesized in sealed, evacuated quartz ampoules, subjected to homogenizing annealing for 250 hr at 240 and 400°C, and studied by thermal, X-ray diffraction, microstructural, and microhardness analyses. In the  $\text{Ga}_2\text{Se}_3$ -Te section, Te and  $\text{Ga}_2\text{Se}_3$  form a mechanical mixture; the phase diagram of this section is shown in Fig. 1. A eutectic is formed at 440°C and 97 at. % Te. In the  $\text{Ga}_2\text{Te}_3$ -Se section, a complex reaction occurs which forms  $\text{Ga}_2\text{Se}_3$  and Te because  $\text{Ga}_2\text{Se}_3$  is more stable than  $\text{Ga}_2\text{Te}_3$  and Se is more electronegative than Te. Up to 7 at. % Se was found to dissolve in  $\text{Ga}_2\text{Te}_3$ ; above this amount,  $\text{Ga}_2\text{Se}_3$  is formed (transition point at 44 at. % Se and 740°C). Thermal effects obtained at 410 and 190°C correspond to ternary eutectics of the Ga-Se-Te system. Orig. art. has: 2

Card 1/2

L 05157-67  
ACC NR: AP6028575

figures and 2 tables.

Fig. 1. Phase diagram of the  
 $\text{Ge}_2\text{Se}_3$ -Te section



SUB CODE: 11,07 / SUBM DATE: 26Mar65 / ORIG REF: 003 / OTH REF: 004

Card 2/2 h<sup>2c</sup>

BASKIN, Yu., dots.; CHERTAN, Ye., aspirant

Interesting study by Rumanian scientists ("Outline history of world shipping on the Danube" by L.Badulescu, Gh.Canja, E.Glaser. Reviewed by IU.Baskin, E.Chertan. Mor.flot no.11:43-44 N '59. (MIRA 13:3)

1. Odesskaya vyschaya partiynya shkoly (for Baskin).
2. Institut istorii moldavskogo filiala AN SSSR (for Chertan).  
(Danube River--Shipping) (Badulescu, L.)  
(Canja, Gh.) (Glaser, E.)

CHERTANOV, Arkadiy Alekseyevich; VORONCHIKHIN, D.A., gvardii polkovnik,  
redaktor; RAMZIN, M.M., pokovnik, redaktor; SOLOMONIK, P.L.,  
tekhnicheskiy redaktor

[When attacking, keep abreast of the advance elements] V atake  
ravniat'sia po perednim. Moskva, Voen. izd-vo Ministerstva obor.  
SSSR, 1956. 44 p. (MLRA 9:8)  
(Infantry drill and tactics)

SHUL'TS, V.L.; SHALATOVA, L.I.; RUBINOVA, F.E.; CHERTANOV, N.P.

Problems in intensifying the melting of snow. Izv. AN Uz. SSR.  
Ser. tekhn. nauk no.2:63-72 '58. (MIRA 11:9)

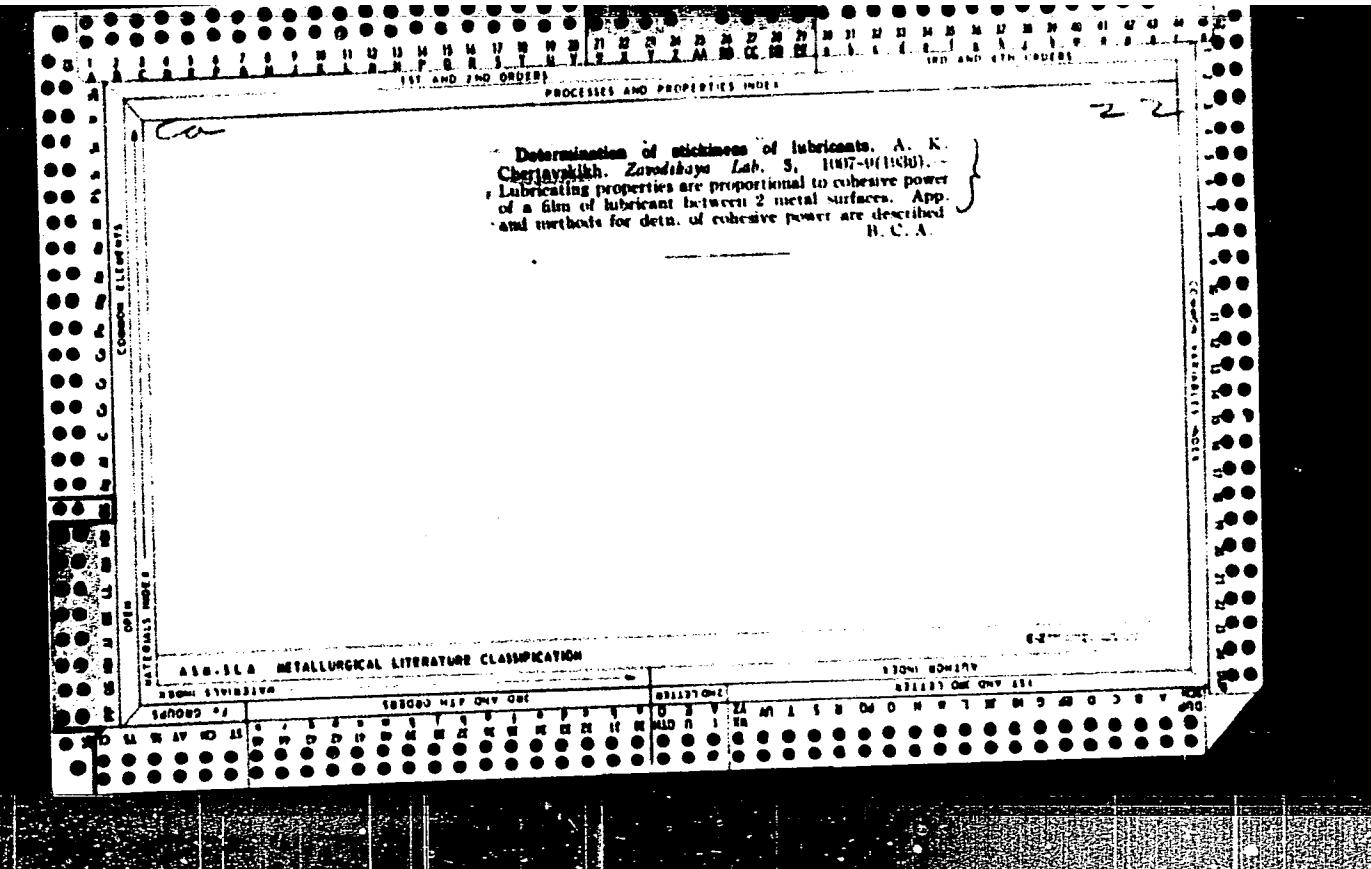
1. Institut vodnykh problem i gidrotekhniki AN UzSSR.  
(Snow)

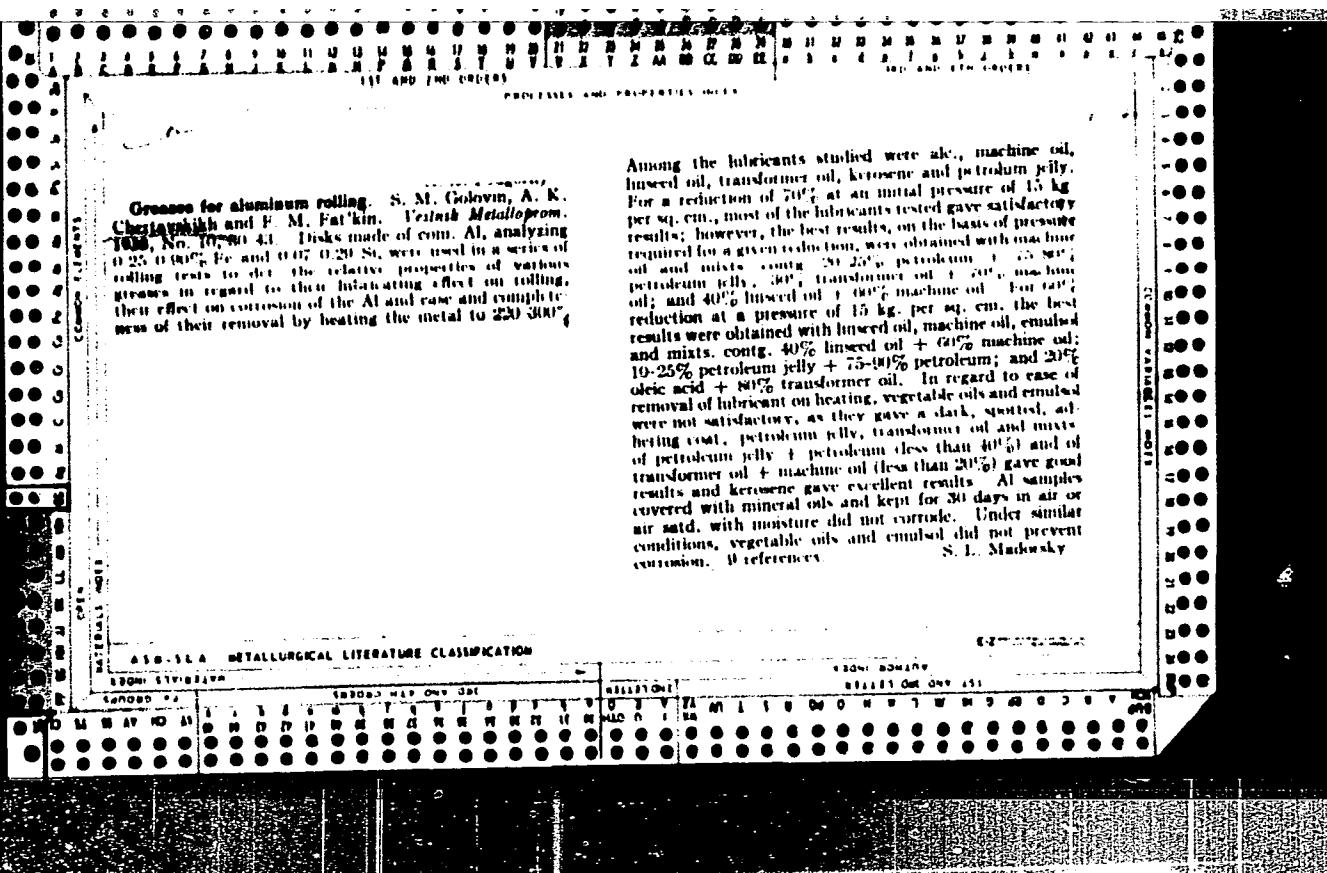
CHERTANOV, S. P.

Glaciers

Portable glacier rod, Met. i gidrol., No. 3, 1949.

Monthly List of Russian Accessions, Library of Congress. November 1952. UNCLASSIFIED.





The External Friction of Metals During Their Plastic Deformation. A. I. Chertkovskikh and V. P. Potapchik (Vestn. Metalloperm. (Met. Ind. Herald), 1939, 19, (6), 14-18).—[In Russian.] The coeff. of external friction of a number of metals was determined by compressing short cylinders of the metals between cone-shaped tools in an Amsler press and measuring the dimensions of the cylinders afterwards. The mean values of the coeff. for various metals against steel EKh 12 (of which the tools were made) so obtained are: tin 0.18, lead 0.33, cadmium 0.24, bismuth 0.27, nickel 0.32, zinc 0.17, copper 0.36, aluminium 0.74. In these experiments no relationship can be established between the coeff. of friction and the Brinell hardness or melting temperature of the metals. This is ascribed to the fact that the soft metals are self-lubricating and so facilitate plastic flow during deformation.

—X. R. V.

M14  
1943

"The Effect of Lubricating Action on the External Friction of Metals. A. K. Chertavskikh (Vestn. Metaloprom. (Met. Ind. Herald), 1939, 19, (8), 36-41).— Experiments show that the coeffs. of friction of copper, zinc, and brass are reduced by 10-18% when water is applied as a lubricant, and by 30-40% or more when 1% potassium soap is added to the water. The difference between the coeffs. of static and sliding friction decreases under the action of a lubricant and becomes practically nil for aluminium lubricated with oil. Touching a fresh metal surface with "clean" fingers may reduce the coeff. of friction by 40-50%.—N. B. V.

S11 AND TWO DEGREES

The influence of lubrication and annealing temperatures on the quality of surface of aluminum and aluminum-alloy sheets. A. K. Chertavskikh, *Vestn. Metal.* 1960, No. 7, p. 89-92. Lubricants for hot and cold rolling of Al and Al alloys were selected. The coking qualities of these lubricants, their suitability for rolling and their corrosive properties were determined. Lubricants shown suitable by tests were then used in production work. The tests showed that rolling is best accomplished using additives of surface-active substances to nonpolar mineral oils. For solid lubricants best results were obtained with beeswax and hydrated castor oil. The following lubricants are recommended: (1) 40% hydrated castor oil, 30% paraffin, (2) 35% paraffin, 35% beeswax, 10% wax surrogate. In regard to corrosion, nondrying mineral oils, beeswax, and castor oil were most protective. B. N. Daniloff

COMBINE ELEMENTS

OPEN

## ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION

SUBDIVISION SUBDIVISION	SUBDIVISION MAP ONLY ONE	SECTION ONE	SECTION TWO											
			1	2	3	4	5	6	7	8	9	10	11	12
100000	1	2	3	4	5	6	7	8	9	10	11	12	13	14
200000	1	2	3	4	5	6	7	8	9	10	11	12	13	14

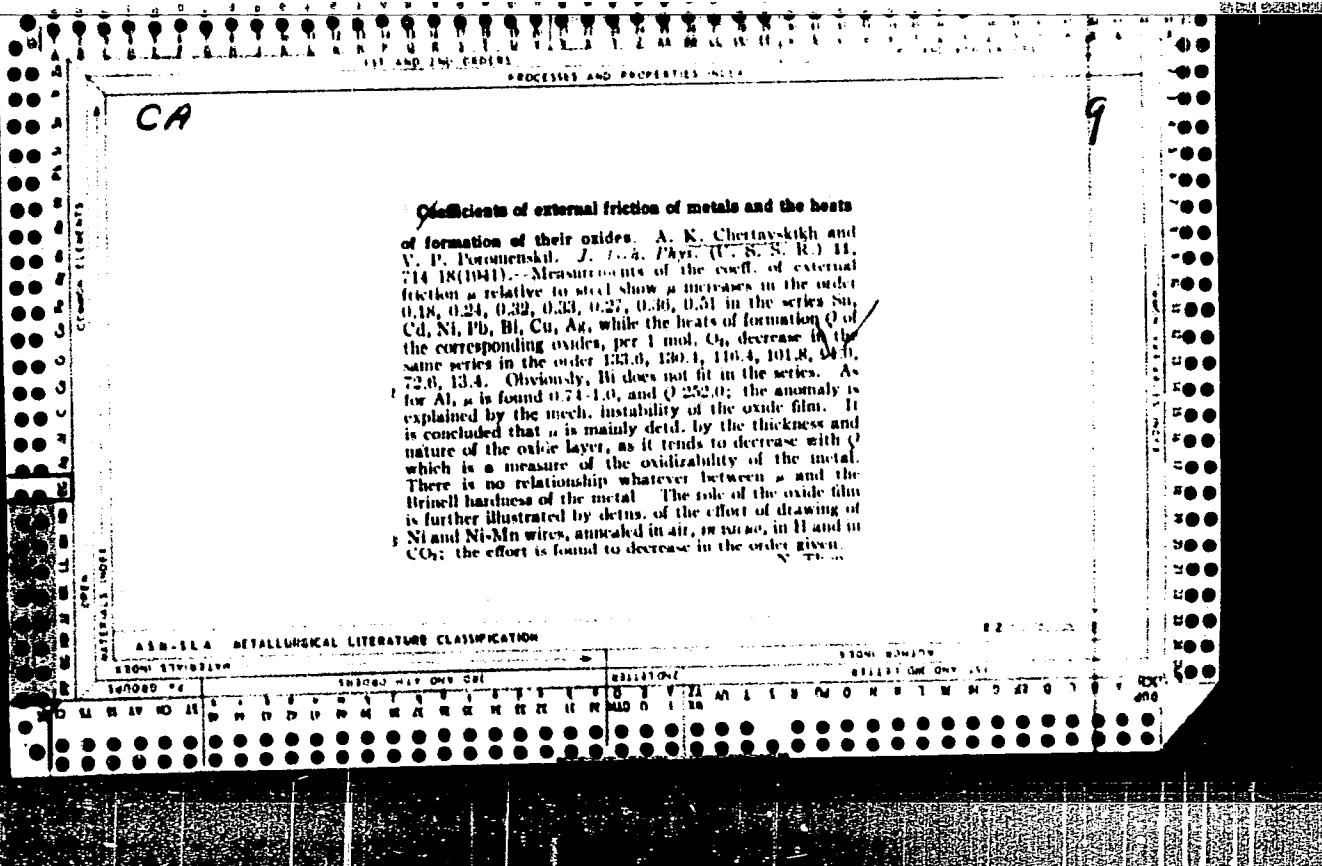
20

\*Obtaining a Clean Surface on Brass Sheet. K. N. Kav and A. K. Chertay  
Soviet Pat. No. 1041, 09, 33-43. (In Russian). Experiments show that /  
it is necessary to use greases made from polyisobutylene. N. V.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM BOMBAY

101131 CMV 101



*Cla*

How to obtain clean brass-sheet surfaces. K. N. Kun and A. A. Chertavskii. *Zhurnal Metal.* 10, No. 9, 35-41 (1941); *Chem. Zentr.* 1942, I, 1920. Contamination of brass-sheet surfaces is caused by using too much lubricant or rubber supports of poor quality, by formation of destructive distill. products of wood in the annealing furnace, by insufficient annealing and, consequently, incomplete combustion of the lubricant, by using too high pickling temps., by inadequate washing after pickling and drying (formation of basic Cu and Zn salts by reaction of CO<sub>2</sub> with the moist sheet surface). Lubricants of the highest quality (with a high percentage of plant oils) are unsuitable for obtaining clean surfaces, since, as a rule, the lubricating property is proportional to the coking capacity and inversely proportional to the combustibility of the lubricant. This observation is explained by the fact that asphaltenes and unsatd. hydrocarbons improve the lubricating properties and that the coking capacity of these components is high if compared with satd. hydrocarbons. Therefore pure mineral oils with a low content of plant oil, and fat acids are preferable as far as the quality of the surface is concerned. H. Barshall

AIR-SEA METALLURGICAL LITERATURE CLASSIFICATION

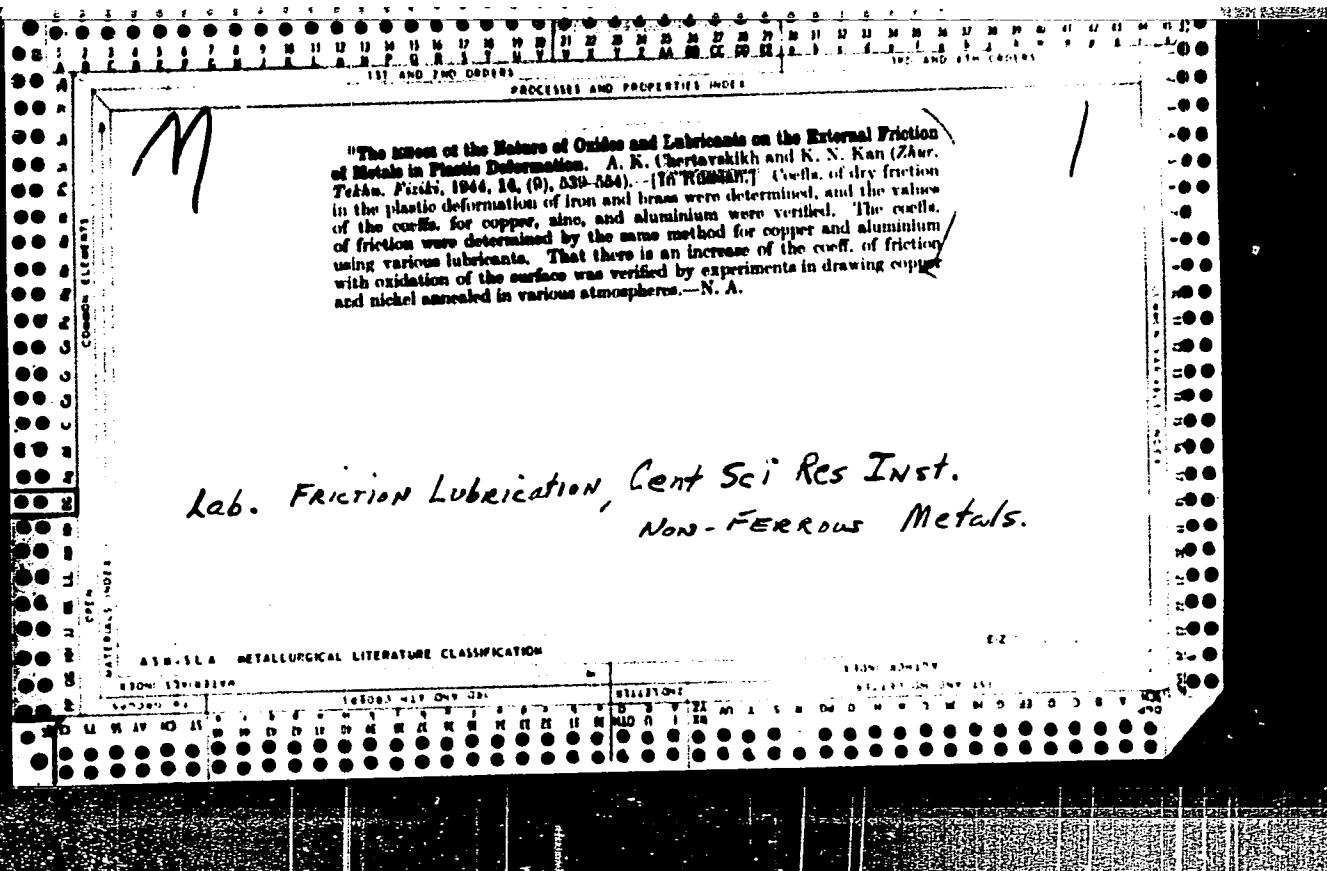
CLASSIFICATION

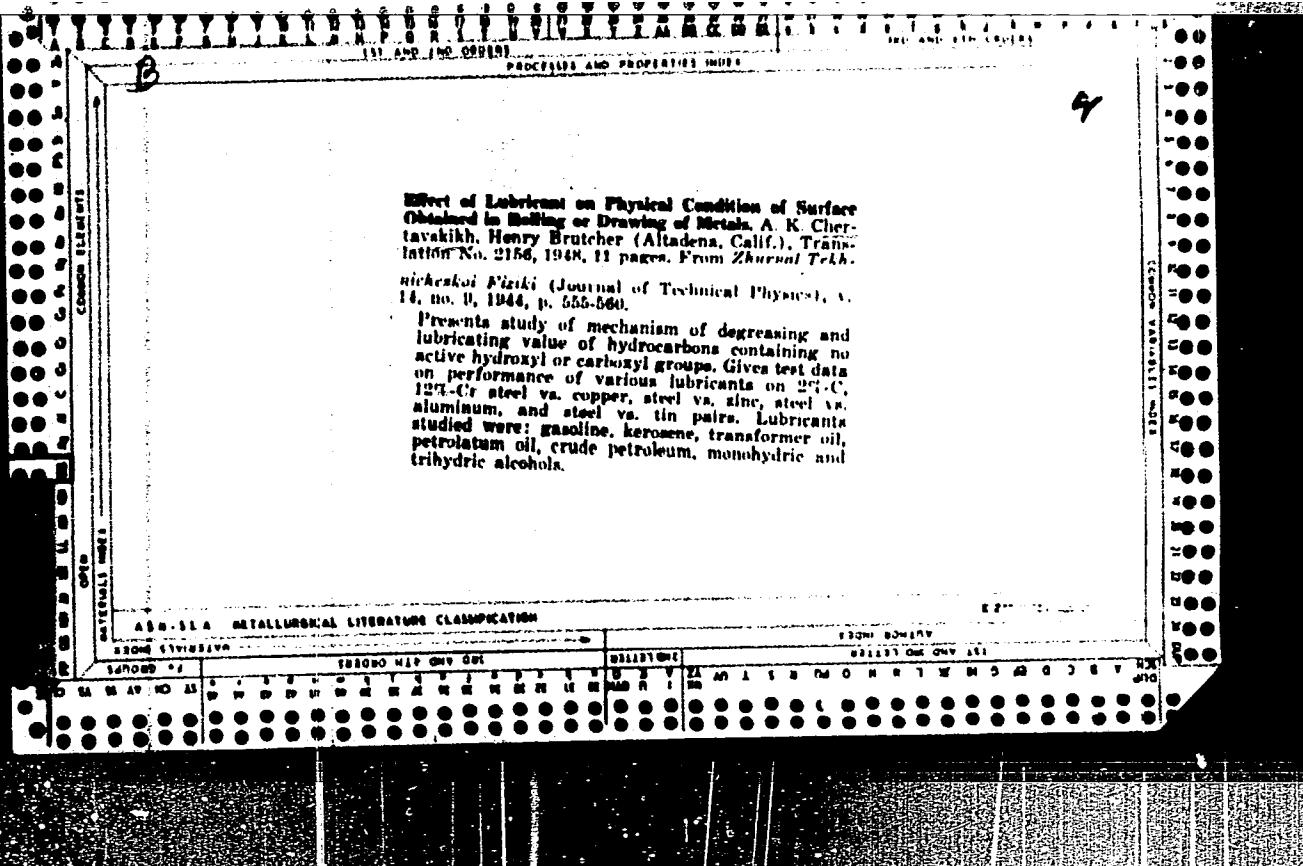
EDITION 6014

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CHERTAVSKIKH, A.K.

met 2

Journal of the Iron and Steel  
Institute  
Vol. 176 Part 3  
Mar. 1954  
Properties and Tests

Tribometer Test for Determining the Coefficient of Friction  
of Metals. A. K. Chertavskikh and V. I. Ryesva. (*Zavodskaya  
Laboratoriya*, 1950, 16, (8), 1017-1018). (In Russian). A  
description is given of a modified form of tribometer and  
its use for finding the coefficient of friction of a ball-bearing  
steel against nickel and copper.—S. R.

Yn. A. V. Tikhonov, "Effect of Annealing on Blister Formation in Be-Bronze," No. 1033-1089. (In Russian). An investigation was made of blisters, dia. 0.5-1.0 mm., and wall thickness 0.1-0.25 mm., found in annealed sheet. Sheets 0.5 mm. thick were prepared from ingots cast from Be-bronze melted in a H.F. furnace, with and without charcoal fluxes (calcined or moistened). Specimens were heated in various atmospheres, and then quenched in water. With moist charcoal, the amount of scrap due to the presence of blisters was 2-3 times greater than with calcined or no charcoal. The greatest amount of scrap was obtained on annealing in steam or moist NH<sub>3</sub>. With ingots vacuum-cast from remelted material, cracking and lamination occurred on rolling. However, the sheet produced did not give blisters when annealed in steam for 30 min. at 700° or 850° C. Annealing tests with cleaned strip showed that strip made from ingots vacuum-melted but cast in air (I) gave ~31 times as much scrap and ~100 times as many blisters as that made from ingots vacuum-melted and vacuum-cast (II). If the surface of strip (II) was not cleaned, blisters were not produced on annealing in steam or dissociated NH<sub>3</sub>. Blisters were not observed when cleaned strip (II) was heated in air, but, with (I) blistering occurred on heating at 810° C. and increased with increase in temp. Cleaned (II) heated in steam at 750°-850° C. was almost free from blisters, but with (I) blisters were formed even at 750° C. (The number of blisters produced remained almost const. up to 800° C., then increased with increase in temp.) Similar results were obtained with moist NH<sub>3</sub>. Blister formation is attributed to the initiation at a critical temp. (800°-810° C.) of a self-accelerating chain reaction, the decompr. of adsorbed water vapour to give H. The gas content of the blisters was determined by heating to 1050° C. in a vacuum ( $2 \times 10^{-4}$  mm. Hg). Be bronze cast in air had a gas content of 0.1 c.c./100 g. metal (the bronze contained 0.00145% O and 0.00037% H); with air-cast and quenched metal the corresponding figures were 3.3 c.c./100 g., 0.00105% and 0.00034%; and with vacuum-cast metal, 1.3 c.c./100 g., 0.0005% and 0.00007%. —G. V. E. T.

CA

Effect of gaseous atmosphere on the formation of bubbles in beryllium bronze. A. K. Chertayavikh and Yu. A. Klyachko. *Zhur. Priklad. Khim.* 23, 1032-9 (1950); *J. Applied Chem. U.S.S.R.* 23, 1097-1100 (English translation).—Melts of Be bronze were prepd. in a high-frequency furnace under (a) normal atm., and (b) vacuum, cast into ingots and rolled into ribbon 0.5 mm. thick. The ribbon was annealed under various conditions and formation of bubbles inside the metal noted. Ribbon prepd. from the vacuum melts was free from bubbles under all conditions. Ribbon prepd. from melts under normal atm. developed bubbles when annealed above 800°; the presence of water vapor or NH<sub>3</sub> in the annealing gases increased the no. of bubbles.  
H. W. Rathmann

*CHERTAVSKIKH, A.K.*

137-58-5-10863

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 281 (USSR)

AUTHORS: Chertavskikh, A.K., Kalinin, K.P., Shlyuger, V.I.

TITLE: Effect of Treatment Procedure on the Distribution of Lead in  
LS63-3 Brass (Vliyaniye tekhnologii obrabotki na raspredele-  
niye svintsa v latuni LS63-3)

PERIODICAL: Tr. Gos. n.-i. i proyekt. in-ta po obrabotke tsvetn. met.,  
1957, Nr 17, pp 69-78

ABSTRACT: With the object of improving the machinability of LS63-3  
strip and sheet used in the watch industry, a procedure was  
sought for the manufacture of brass that would assure disper-  
sion (D) and uniform distribution (UD) of the Pb. It is estab-  
lished that elevated D and UD of Pb are provided by a 17 mm/  
sec rate of casting with a 3:100 ratio of cross sections of stream  
to ingot, and intensive cooling of the mold. The temperature of  
the melt is 1000-1060°C. Additions of 0.5% Ce, Se, and Te do  
not affect the D and the nature of the UD of Pb. The maximum D  
of the Pb and consequently the best machinability and improved  
surface finish are obtained at maximum total degree of deform-  
ation and low temperature anneal (450-500°) for 2.5-3 hours.

Card 1/2

137-58-5-10863

**Effect of Treatment Procedure (cont.)**

The principal difference between the new and the old process is that annealing temperature has been cut by 150-200°.

N. L.

1. Brass-lead alloys--Properties
2. Lead--Distribution

Card 2/2

137-58-4-7028

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 104 (USSR)

AUTHORS: Tarshinov, V. I., Chertavskikh, A. K.

TITLE: On the Development of Four-high Mills for Brass Rolling (K voprosu osvoyeniya chetyrekhvalkovykh stanov pri prokatke lantuney)

PERIODICAL: Tr. Gos. n.-i. i proyektn, in-ta po obrabotke tsvetn. met., 1957, Nr 17, pp 79-89

ABSTRACT: Steps taken in the development of the rolling (R) of sheet and strip of heavy nonferrous metals and alloys on 4-high mills are described. Shortcomings in the work were due to the need to change the design of certain assemblies of the mill: two pairs of stationary rollers were installed in place of the replaceable table, the screw-up roller of the stretcher leveler was shifted, the design of the intermediate table between the bending machine and the back roller table was changed, and the support of the inclined roller table was replaced by additional inclined rollers, etc. In the R of strip at high speeds, the best results were obtained by the use of an emulsion made from type 59-1 paste as the lubricant. To assure optimum lubricating action by the emulsion

Card 1/2

137-58-4-7028

On the Development of Four-High Mills for Brass Rolling

over a long period of time, it is desirable to employ an emulsion containing 1.5-2 percent paste. Recommendations on the procedures for rolling of thin, medium, and thick brass strip are presented.

V. D.

1. Rolling mills--Development    2. Brass--Rolling--Applications

Card 2/2

Chertavskikh, A. K.

Effect of Industrial Gases on the External Friction of Steel Against  
Iron and Nickel p. 297

Sukhoye i granichnoye treniye. Friktsionnyye materialy (Dry and Boundary  
Friction. Friction Materials) Moscow, Izd-vo AN SSSR, 1960. 302 p.  
Errata slip inserted. 3,500 copies printed. (Series: Its: Trudy,  
v. 2)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Ed.:  
I. V. Kragel'skiy, Doctor of Technical Sciences, Professor; Ed. of  
Publishing House: K. I. Grigorash; Tech. Ed.: S. G. Tikhomirova.

The collection published by the Institut mashinovedeniya, AN SSSR  
(Institute of Science of Machines, Academy of Sciences USSR) contains papers  
presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v  
mashinakh (Third All-Union Conference on Friction and Wear in Machines,  
April 9-15, 1958.

CHERTAVSKIKH, A.K.; NAUMKINA, I.V.; Prinimal uchastiye MAKSIMOV, V.A.

Use of generator and natural gases for the nonoxidizing heating  
of nonferrous metals. TSvet. met. 35 no.3:74-77 Mr '62.  
(MIRA 15:4)  
(Nonferrous metals) (Furnaces, Heating)

ACCESSION NR: AT4014059

S/3072/63/000/000/0038/0048

AUTHOR: Chertavskikh, A. K.; Butomo, D. G.

TITLE: The effect of oxidation and lubrication on the runoff of metal during pressing

SOURCE: Fiz.-khim. zakonomernosti deystviya smazok pri obrabotke metallov davleniem. Moscow, Izd-vo AN SSSR, 1963, 38-48

TOPIC TAGS: metal pressure processing, nonferrous alloy pressure processing, non-ferrous alloy, MNZh 5-1 alloy, lubrication, metal runoff

ABSTRACT: A number of studies have been made on the effect of pressing techniques and pressing instrument profiles on the character of the runoff of nonferrous metals and alloys. However, in these papers the pig temperature and pressing force were not determined, and the ingots were heated only in an oxidizing medium (air). For the purpose of studying the nature of metal efflux during pressing, copper pins 8-10 mm in diameter were driven into the pigs to a depth of 15-20 mm. The distance between the pins was 20-30 mm, and their ends were made flush with the surface of the ingot. The temperature of the ingots was tested by means of an optical pyrometer ( $\Delta = 1.5\% t_{meas.}$ ). A temperature check of the pigs using a thermal probe failed to yield any promising results because of a thick, tough  
Card: 1/2

ACCESSION NR: AT4014059

blister or skin. In studies with MNZh 5-1 alloy pressed in air with or without lubrication the least effort and greatest number of external flaws were obtained with a mixture of 20% technical graphite and 80% industrial grease (#45). It was also found that when pressing tubing without lubrication, the MNZh 5-1 alloy flows along the diagonal of the pig, beginning at the corner of the press-plate and proceeding toward the center of the matrix. This results from the presence of increased external friction on the boundaries of the "ingot-plate" and "ingot-container" interfaces. When pressing with a lubricant coating, the alloy flows easily, with the oxidized, peripheral part of the pig flowing parallel to the internal layers and shearing off at the apex of a dead angle. The oxidized metal continues to flow and (in the conical part) the oxides are forced to the outer surface of the tube (or rod), forming flaws. The authors discovered, moreover, that on pigs heated to 920C in technical nitrogen passed through heated charcoal, or merely in charcoal alone, no blisters were formed. "V. A. Maksimov, N. G. Ginsburg, M. V. Bubnova, A. I. Shanayev, A. V. Kashchurin, L. M. Radchenko, Ya. N. Kholkovskiy and G. I. Zverev took part in these studies." Orig. art. has: 17 figures.

ASSOCIATION: none

SUBMITTED: 00  
SUB. CODE: ML  
Card 2/2

DATE ACQ: 19Dec63  
NO REF Sov: 005

ENCL: 00  
OTHER: 00

CHERTAVSKIKH, A.K.; TIKHONOV, B.S.; NAUMKINA, I.V.; NIKITIN, V.I.

Nonoxidizing annealing of OTsS4-4-2,5 bronze in endothermal  
gas. Trudy Giprosvetmetobrabotka no.24:307-313 '65.  
(MIRA 18:11)

CHERTAVSKIKH, A.K., kand.tekhn.nauk; TIKHONOV, B.S., kand.tekhn.nauk;  
KATASONOVA, V.P., inzh.

Bell-type and shaft furnaces for the annealing of sheet and strip.  
TSvet. met. 34 no. 4:61-65 Ap '61. (MIRA 14:4)  
(Furnaces, Heat-treating) (Annealing of metals)

CHERTENKOV, V.P., slesar'-elektrik

How to detect and eliminate failures of the voltage regulator. Elek. i  
teplo.tiaga no.7:30-31 Jl '63. (MIRA 16:9)

1. TSekh tekhnicheskogo osmotra depo Inskaya Zapadno-Sibirskoy dorogi.  
(Electric locomotives—Maintenance and repair)

CHERTENKOV, V.P., slesar'-elektrik

An interesting case encountered in my work. Elek. i tepl. tiaga  
7 no. 3:30-31 Mr '63.

(MIRA 16:6)

1. Depo Inskaya Zapadno-Sibirskey dorogi.  
(Electric locomotives)

CHERTENKOV, V.P., slesar'

Case of failure in the VL8 electric locomotive. Elek. i tepl.  
tiaga 9 no.11:28-29 N '65. (MIRA 19:1)

1. Depo Inskaya.

CHERTE, N.c., ing.

The loading and unloading mechanization, an important problem  
today. Rev sailor fer 13 no.1:3-7 Ja '65.

DANDERS, Ya.; YATSEVICHUS, I. [Jacevicius, I.]; GOL'DENBERG, A.; KHARIN, B.,  
inzh. (Leningrad); MOVA, N., inzh.; VINNIKOV, F. (Gomel');  
MAMYKIN, I. (Gomel'); BENDERSKIY, A., starshiy inzh. (pos. Igra,  
Udmurtskoy ASSR); CHERTETSOV, V.; OSIPOV, I.; SIROTININ, M.I.

Exchange of news and experience. Izobr.i rats. no.4:25-26 Ap '62.  
(MIRA 15:4)

1. Sekretar' Respublikanskogo soveta Vsesoyuznogo obshchestva  
izobretateley i ratsionalizatorov, g. Riga (for Danders).
2. Glavnyy inzh. mezhdugorodnoy telefonnoy stantsii, g. Vil'nyus  
(for Yatsevichus). 3. Predsedatel' oblastnogo soveta Vsesoyuznogo  
obshchestva izobretateley i ratsionalizatorov g. Ufa (for  
Gol'denberg). 4. Krayevoy sovet Vsesoyuznogo obshchestva  
izobretateley i ratsionalizatorov, g. Krasnodar (for Mova).  
5. Igrinskiy lespromkhoz kombinata "Udmurtles", (for Benderskiy).  
6. Predsedatel' Krasnoyarskogo krayevogo soveta Vsesoyuznogo  
obshchestva izobretateley i ratsionalizatorov (for Sirotinin).  
(Technological innovations)

CHERETSOV, V.N.; MEL'NIKOV, B.A.

Semiautomatic apparatus for painting in an electric field and  
for drying painted articles with thermal radiation. Lakokras.  
mat. i ikh prim. no.6:71-72 '61. (MIRA 15:3)  
(Painting, Industrial—Equipment and supplies)

MURAV'YEV, Aleksandr Andreyevich; CHERTETSOV, Vasiliy Nikolayevich;  
KVASOV, N.V., red.; TELESHOV, R.Kh., red.izd-va;  
BELOGUROVA, I.A., tekhn. red.

[New form for promoting and introducing the work of in-  
novators] Novaia forma propagandy i vnedreniia opyta novatorov.  
Leningrad 1962. 21 p.  
(Technological innovations)

(MIRA 16:3)

MURAV'YEV, Aleksandr Andreyevich; CHERETETSOV, Vasiliy Nikolayevich;  
KVASOV, N.V., red.; TELYASHOV, R.Kh., red. izd-va; GVIPTS,  
V.L., tekhn. red.

[Initiative of Leningrad workers is spreading throughout  
the country; fair of innovations in White Russia] Pochin  
leningradtsev rasprostranietsia po strane; o iarmarke  
novatorskikh predlozhenii v Belorusskii. Leningrad, 1963.  
(MIRA 16:10)  
9 p.

(White Russia—Technological innovations)

MURAV'YEV, A.A.; CHERETSOV, V.N.

[Organizing and carrying out creative missions of innovators]  
Organizatsiia i provedenie tvorcheskikh komandirovok novato-  
rov. Leningrad. 1963. 26 p. (MIRA 17:1)

CHERETSOV, Vasiliy Nikolayevich; ZAKHAROV, Georgiy Yakovlevich;  
NEDIKOV, Vladimir Mikhaylovich; GERST, V.M., red.

[Works practices of consultation and information centers  
of the Leningrad Economic Council in disseminating and  
introducing technological innovations in industry] Opyt  
raboty konsul'tatsionnykh i informatsionnykh punktov  
Lensovmarkhoza po rasprostraneniu i vnedreniu tekhnicheskikh novshestv v promyshlennosti. Leningrad, 1964.  
(MIRA 18:1)  
22 p.

MURAV'YEV, Aleksandr Andreyevich; CHERTEZOV, Vasiliy Nikolayevich;  
SOKHOR, I.N., red.

[Work of the council of innovators of Leningrad instrument  
industry workers on the promotion and introduction of  
advanced production and technical experience] Rabota soveta  
novatorov leningradskikh priborostroitelei po propagande i  
vnedreniu peredovogo proizvodstvenno-tehnicheskogo opyta.  
(MIRA 17:9)  
Leningrad, 1964. 25 p.

CHUYEV, Aleksey Vasil'yevich; CHERETESOV, Vasiliy Nikolayevich;  
SOKHOR, Izabella Naumovna; BOBKOV, V.A., red.

[Work practice of the Leningrad Economic Region Council  
of Innovators] Opyt raboty sovetov novatorov Leningrad-  
skogo ekonomiceskogo raiona. Leningrad, 1965. 41 p.  
(MIRA 18:5)

Chertikhin, V.

LEBEDEVA, M., redaktor; CHERTIKHIN, V., redaktor; MUKHIN, Yu., tekhnicheskiy  
redaktor

[The countries in brief] Korotko o stranakh. [Moskva] Gos.izd-vo  
polit.lit-ry [1957] 302 p.  
(MLRA 10:8)  
(Geography)

CHERTILIN, V.

Automatic control in an oil field. Neftianik 5 no.3:22 Mr  
'60. (MIRA 14:9)  
(Oil fields--Production methods) (Automatic control)

CHERTILIN, V.

Following the example set by Gazanova. Neftianik 5 no.11:5 II '60.  
(MIRA 13:11)

(Tuymazy region--Efficiency, Industrial)

CHERTILIN, V.

Innovator Sharifullin. Neftianik 6 no.722 Jl '61. (MIRA 14:7)  
(Oil fields—Technological innovations)

CHERTILIN, V. M.

A second profession is being mastered by Bavly petroleum workers.  
Neftianik 2 no.6:34 Je '57. (MIRA 10:10)  
(Bavly--Petroleum engineering--Study and teaching)

CHERTILIN, V. M.

CHERTILIN, V. M.

Bavly petroleum workers are increasing their qualifications.  
Neftianik 2 no. 9:30-31 S '57. (MIRA 10:9)  
(Bavly--Petroleum industry--Study and teaching)

CHERTILIN, V.M.

Radio remote control in Bayly fields. Neftianik 3 no. 4:27 Ap '58.  
(Remote control) (Pumping stations) (MIRA 11:5)

CHERTILIN, V. M.

82-58-5-11/30

AUTHOR: None given

TITLE: Comments on Previously Published Articles (Po sledam vystupleniy)

PERIODICAL: Neftyanik, 1958, Nr 5, p 12 (USSR)

ABSTRACT: 1) Facts exposed in the article "Efficiency Experts are Neglected in Bavly", by V. M. Chertilin, published in Neftyanik, were found by the technical council of the Bavlyneft' administration to be correct. Therefore, the above council decided to recommend the organization of special teams to take care of introducing new techniques and to implement the practical proposals of efficiency experts. In this connection, the council also recommended an increase in control over the preparation of different topics by engineers and technical personnel. 2) With reference to the article "When Will We Finally Take Advantage of Advanced Techniques?", published in the Nr 8. 1957 issue of Neftyanik, the chief of the compression department of Artemneft' states that the crane of the sixth compression station of the NPU Artemneft' was put into operation in December 1957.

1. Scientific reports---Critic

Card 1/1

SOV/92-58-7-33/37

AUTHOR: Chertilin, V.

TITLE: Engineer, Efficiency Expert, Inventor (Inzhener - ratsionalizator,  
izobretatel')

PERIODICAL: Neftyanik, 1958, Nr 7, p 33 (USSR)

ABSTRACT: During a period of two years, the electrical engineer D.M. Stamatin has made over twenty constructive proposals which were accepted and helped to improve the existing automatic telecontrol (SAT - 1 system) of oil well operations. By the end of last year he also developed a remote control system for deep wells, which proved to be very useful. In the past the pump jack starting equipment and the telemechanical system of automated oil wells were installed in the open air exposed to atmospheric changes. However, D.M. Stamatin has recently built a station of his own design, which controls the operation of pumbers, protects the respective equipment, prevents the overloading of the electric motor, and eliminates the possibility of a shortcircuit. At the same time this station ensures the safety of operations, and it can be easily built at any oilfield. There is a photograph showing D.M. Stamatin adjusting the station.

1. Refineries 2. Plants--Growth

Card 1/1

SYROVATSKIY, A.; NIZHEGORODTSEV, P.; MARTYNOV, A.; VIKTOROVICH, Ye.;  
CHERTILIN, V.; BATYROV, R.

In the oil regions of our country. Neftianik 7 no.1:30—  
33 Ja. '62. (MIRA 15:2)  
(Petroleum industry)

GORSHKOV, G., tekhnik (Sverdlovsk); GRISHCHENKO, E. (Aktyubinsk); GFANOVSKIY, L., instruktor; IVANNIKOV, A.; BERDYUGIN, V., gornyy inzh.; KIL'DIBEKOV, V.; GORELIK, M., inzh.; ATKOCHATIS, Ye. [Atkocaitis, E.] (Vil'hyus); CHERTILIN, V. (Bavly, Tatarskaya ASSR); DZHURAYEV, U. (Fergana)

Exchange of news and practice. Izobr.i rats. no.2:18-19 F '62.  
(MIRA 15:3)

1. Ural'skiy zavod tyazhelogo mashinostroyeniya (for Gorshkov).
2. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov remontno-mekhanicheskogo zavoda "Bol'shevik", g. Aktyubinsk (for Grishchenko).
3. TSentral'nyy Sovet Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Granovskiy).
4. Predsedatel' oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Ivannikov).
5. Vneshtatnyy konsul'tant oblastnogo konsul'tatsionnogo punkta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, g. Kemerovo (for Berdyugin).
6. Zaveduyushchiy otdelom promyshlennosti gazety "Leninskiy put'", g. Slobodskoy Kirovskoy obl. (for Kil'dibekov).
7. Otdel kapital'nogo stroitel'stva predpriyatiya teplovых setey upravleniya energetiki Soveta narodnogo khozyaystva RSSR, g. Minsk (for Gorelik).

(Technological innovations)

GERTILIN, V.

Not a fireman but a remote control operator. Neftianik 7 no. 7:31  
(MIRA 16:3)  
Jl. '62.  
(Bavly region--Boilers) (Remote control)

CHERTIN, A. M.

A catalog of powerful high voltage transformers Moskva, 1948. 67 p. (49-53747)

TK2551.R8 1948